

## **Questioned Documents Unit (QDU)**

### **Procedures for Conducting Handwriting/Hand Printing Examinations**

#### **1 Scope**

These procedures will be used by a forensic document examiner to conduct examinations on items containing handwriting and/or hand printing, **Redacted** for the purpose of determining its origin and/or authenticity.

#### **2 Equipment/Materials/Reagents**

- Fostec 150 watt tungsten halogen light, or comparable equipment
- Laboratory Supplies Co., Inc. 30 watt transmitted light box, or comparable equipment
- Hand magnifier (minimum magnification, 4X)
- Leica stereomicroscope (minimum magnification, 6.3X), or comparable equipment

#### **3 Standards and Controls**

Not Applicable.

#### **4 Sampling**

Not Applicable.

#### **5 Procedures**

**5.1** Visually examine the questioned, and where applicable, known items using lighting and magnification sufficient to allow fine detail to be distinguished in order to determine whether the writing to be examined is original writing.

**5.1.1** If the questioned writing is not original, determine the technology used to prepare the text, if not submitted as a copy by the contributor. Refer to the *QDU Procedures for Conducting Graphic Arts, Photocopier, and Printer Examinations* if needed. If the questioned writing was submitted as a copy of the original by the contributor, a technology determination is not necessary.

**5.2** If the questioned and/or known writing is original, determine if all writing is freely and naturally prepared through visual and microscopic examination. **Redacted**

**Redacted**

**5.3** If the questioned and/or known writing are freely and naturally prepared, analyze using lighting and magnification to determine if there is a sufficient quantity of writing of suitable quality for comparison purposes. Determine the skill level and range of variation exhibited in each item, if possible, and proceed.

**5.4** Analyze the questioned and/or known writing to determine contemporaneousness and comparability between items, and use sufficient lighting and magnification to analyze the class and individual characteristics.

**Redacted**

**5.4.1** Determine if there is more than one style of writing within the questioned and/or known writing. Note in the examination records if there are inconsistencies or unexplained handwriting characteristics present within the bodies of writing. It may be necessary to contact the contributor for authentication.

**5.4.2** If the submitted known writing is not sufficiently comparable to the questioned writing, **Redacted** this procedure may be discontinued at the analysis stage. Ensure all other pertinent examinations (e.g., indented writing) have been completed and report accordingly.

**5.4.2.1** Note: In the absence of exact wording between items, the same letter combinations and/or similar words are sufficient for comparison purposes. For example, if the questioned writing contains the word “there”, comparing this to the words “the” and “are” in the known writing is acceptable.

**5.4.2.2** If comparability in wording or letter combinations is the limitation, request comparable known writing, providing adequate instructions.

**5.5** Analyze the questioned writing, determining if sufficient unique and individualizing characteristics are present to continue examinations (e.g., the questioned handwriting is suitable for comparison).

**5.5.1** If enough unique characteristics are present, continue to the comparison phase.

**5.5.2** If a sufficient number of unique characteristics are not present, discontinue examinations and report accordingly.

**5.6** Conduct a side-by-side comparison with exclusively questioned or questioned and known items using the following symbols in examiner work notes to record the various characteristics observed in the handwriting/hand printing that will be used in the formulation of examiner findings/opinions:

- ○→ - Indicating an unexplained characteristic, unexplained variation, inconsistency, or an accidental characteristic.
- → - Indicating a similarity, consistency, natural variation, or characteristics in common.
- +→ - Indicating a difference.

Assess the combination of individual and class characteristics observed in the questioned writing and attempt to account for those characteristics on the basis of the available known writing. It should be noted that it is possible that characteristics present in the known writing may not be observed in the questioned writing. This is acceptable, often expected and does not preclude an identification or elimination opinion. Determine if the variation and skill level in the questioned writing are within the limits set by the known writing.

**5.7** Evaluate the similarities, differences, unexplained characteristics, and limitations to determine their significance individually and in combination. Form a conclusion based on results of the above analyses, comparisons, and evaluations.

**5.8** Ensure all notes, data, and observations used to support the conclusions derived from the examination are recorded in the examination records. Include any reference information,

image files, printouts or photographs, overlays, drawings or images, or identifying/eliminating characteristics that support your findings or conclusions.

## 5.9 Conclusions

- **Identification** - The examiner's opinion that two or more samples of handwriting originated from the same writer(s) due to significant characteristics in agreement, both in quality and quantity, such that the examiner would not expect to see the same combination of characteristics repeated in a handwriting sample of another writer. There are no fundamental differences to suggest another writer and there are no significant limitations with the items examined. Unexplained characteristics are far outweighed by the combined effect of agreement in all other details.

Note - Due to the impossibility of examining all handwriting, an identification to the exclusion of all others can never be proven. However, an identification opinion is supported by research, which has shown that as more significant characteristics are found in agreement, it becomes less likely to find that same combination of characteristics in a handwriting sample from another writer.

- **May Have (Qualified Opinion)** - This opinion is based on the prevalence of characteristics in common between two or more bodies of writing; however, a limitation(s) exists which prevents an identification. This is a less than definitive opinion and requires an explanation of limiting factors.
- **No Conclusion** - The examiner cannot determine whether the items being compared were or were not prepared by the same writer(s), usually because of such factors as lack of comparability or lack of clarity and detail in the submitted items, which may significantly limit meaningful examinations. In instances when meaningful examinations can be conducted, the weight of the combination of characteristics observed in common is counterbalanced by the weight of the combination of inconsistencies or unexplained characteristics observed. This opinion requires an explanation of limiting factors.
- **May Not Have (Qualified Opinion)** - This opinion is based on the prevalence of dissimilarities between two or more bodies of writing; however, a limitation(s) exists which prevents an elimination. This is a less than definitive opinion and requires an explanation of limiting factors.
- **Elimination** - The examiner's opinion that two or more bodies of writing were not prepared by the same writer(s) due to disagreement in significant characteristics. Any similarities are far outweighed by the lack of agreement in all other details. No significant limitations are present.

### 5.9.1 If a qualified opinion is reached and it is determined that additional known writing

may be beneficial, provide instructions within the report on obtaining comparable known writing.

## 6 Calculations

Not Applicable.

## 7 Measurement Uncertainty

Not Applicable.

## 8 Limitations

The factors that may affect the examination process and/or the results rendered include:

Redacted

Redacted

- Lack of/limited contemporaneous and/or comparable known writing for comparison.

Redacted

- Prior destructive forensic examinations such as latent print processing.
- Lack of sufficient suitable characteristics for comparison.

Redacted

## 9 Safety

Standard precautions should be followed for the handling of chemical and biological materials. Examiners/analysts may refer to the *FBI Laboratory Safety Manual* for additional guidance. Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within the QDU space.

## 10 References

*QDU Standard Operating Procedures Manual*

*QDU FBI Approved Standards for Scientific Testimony and Report Language for Forensic Handwriting Comparisons*

*FBI Laboratory Safety Manual*

*ASTM, E 2290, "Standard Guide for Examination of Handwritten Items," Annual Book of ASTM Standards, Vol. 14.02*

Bradford, Russell R., and Bradford, Ralph B., *Handwriting Examination and Identification*, Nelson-Hall Publishers, Chicago, IL. 1992.

Conway, James V.P., *Evidential Documents*, Charles C. Thomas, Publisher, Springfield, IL. 1959.

Harrison, Wilson R., *Suspect Documents*, Nelson-Hall Publishers, Chicago, IL. 1981.

Hilton, Ordway, *Scientific Examination of Questioned Documents Revised Edition*, Elsevier Science Publishing Co., New York, NY. 1982

Osborn, Albert S., *Questioned Documents Second Edition*, Nelson-Hall Co., Chicago, IL. 1929.

Seaman Kelly, J., and Lindblom, B., Editors, *Scientific Examination of Questioned Documents, Second Edition*, CRC Press, Boca Raton, FL. 2006.

Rev. #	Issue Date	History
7	03/01/18	<p>2 Equipment/Materials/Reagents, deleted “Foster and Freeman Video Spectral Comparator (VSC), or comparable equipment”, “ChemImage Hyperspectral Imager (HIS) Examiner 100 QD, or comparable equipment” 5.1.1, added “if not submitted as a copy by the contributor.” “If the questioned writing was submitted as a copy of the original by the contributor, a technology determination is not necessary.” 5.2 added, “If the questioned and/or known writing is not original, attempt to ascertain if there are characteristics of free and natural preparation in the copied writing.” Added “5.4.2.1 Note: In the absence of exact wording between items, the same letter combinations and/or similar words are sufficient for comparison purposes. For example, if the questioned writing contains the word “three”, comparing this to the words “the” and “are” in the known writing is acceptable.” Original 5.4.2.1 changed to 5.4.2.2, added, “in wording or letter combinations” 5.5 changed to “Analyze the questioned writing, determining if sufficient unique and individualizing characteristics are present to continue examinations. Added, “5.5.1 If enough unique characteristics are present, continue to the comparison phase. Added “5.5.2 If a sufficient number of unique characteristics are not present, discontinue examinations and report accordingly.” New 5.6, added, “using the following symbols in their work notes to document the various characteristics observed in the handwriting/hand printing that will be used in the formulation of their findings/opinions: “symbols” Indicating an unexplained characteristic, unexplained variation, inconsistency, or an accidental characteristic. Indicating a similarity, consistency, natural variation, or characteristics in common. Indicating a difference. Added, Assess observed in the questioned writing and attempt to account for those characteristics on the basis of the available known writing. It should be noted that it is possible that characteristics present in the known writing may not be observed in the questioned writing. This is acceptable, often expected and does not preclude an identification or elimination opinion. New 5.7, to include “Evaluate the similarities, differences, unexplained characteristics, and limitations to determine their significance individually and in combination. Form a conclusion based on results of the above analyses, comparisons, and evaluations.” 5.6 changed to “5.8”, deleted “Record” “in the examination records” added, “are recorded in the examination records.” Deleted original 5.6.1 with “symbols” 5.7 Conclusions changed to 5.9 Conclusions, in “Note” section changed “arrangement” to “combination” 5.7.1 changed to “5.9.1” Under 8 Limitations, first bullet, deleted “often resulting in opinions that are less than conclusive/definite.”, added, “When the questioned writing is non-original, resulting opinions often are less</p>

8            09/26/19    than conclusive/definite. Non-original known writing may or may not be a limitation depending on the quality of the copy. In some instances, non-original known writing does not preclude an identification or elimination.” Fourth bullet, deleted “original and freely prepared” Eighth bullet, added “Writing which does not appear freely and naturally prepared (e.g., distorted writing).” 5.5 added “(e.g., the questioned handwriting is suitable for comparison.” 5.6, deleted “their” and added “examiner.” 5.8, deleted “and/or” “s” after “image” added “files,” or “images.” 5.9, bullets one, two, four, and five, added “or more.”

**Approval**

Redacted - Signatures on File

Questioned Documents  
Unit Chief

Date: 09/24/2019

Questioned Documents  
Technical Leader

Date: 09/24/2019

**QA Approval**

Quality Manager

Date: 09/24/2019